

CLAIM AMENDMENT

Claim 1 (Currently Amended)

Grinding machine for blades of corresponding to a turbine or a compressor rotor, including comprising:

a machine bench ~~(3)~~, supporting a rotor ~~(2)~~ of several periods ~~(2a)~~ of blades rotating at high speed_{ri}

a grinding wheel head ~~(6)~~ including foreseen of two grinding wheels for grinding ~~(7, 7')~~ which are rotatable into commutable one for the other, in a the grinding position faced to the rotor blades (2a) for the grinding of blades of successive rotors (2)_{ri}

a shaping device associated with each grinding wheel for (12—15) of individual shaping of each grinding wheel ~~(7, 7')~~, each shaping device including foreseen of a respective shaping tool mounted on a supporting carriage (12, 13) and means ~~(14—15)~~ for their linear movement (U, C) of the shaping tool with respect to the grinding wheel_{ri}

an electronic control unit ~~(16)~~ including foreseen of a numerical control CNC to control the rotor ~~(2)~~, and the

displacement of the grinding wheel head (6) ~~displacements~~
in an axial direction ~~(Z)~~ and in a ~~the~~ radial directions ~~(X)~~
and an respect to the rotor and angular direction (B) with
respect to the rotor, and the ~~mentioned~~ displacements ~~(U, C)~~
of the shaping device ~~(12-15)~~,;

an optical system ~~(16-24)~~ to measure the radius (R)
of the blades ~~(2)~~ of the rotor period ~~(2a)~~ being
rectified, which is connected to the bench ~~(3)~~ of the machine;
~~and includes foreseen of an optical sensor (19) lined up~~
~~with the mentioned rotor period (2a) in rotation and one~~
~~of the mentioned grinding wheels (7, 7'),~~

the grinding wheel ~~mentioned~~ head ~~(6)~~ is supported on
a rotary carriage ~~(8)~~ of the head and two linear carriages,
~~(9, 10)~~ of the head which carrying out the mentioned
displacements ~~(Z, X, B)~~ of the head ~~(6)~~, calculated from the
geometric data ~~(D1, D2, 30)~~ relative to the two grinding wheels
~~(7, 7')~~, for the positioning of a second grinding wheel ~~(7')~~
for the grinding of a second consecutive rotor ~~(2)~~,;

wherein ~~characterized in that~~ the mentioned optical
system ~~(16-24)~~ for the radius R measuring of the blades in
cooperation with the control unit ~~(16)~~ carries out a continuous

detection of burrs on the blades ~~(2a)~~ during the grinding by means of a measuring ~~of the~~ perturbations of the mentioned radius R, and in ~~that~~

~~the mentioned individual shaping tool device (12, 13) is mounted on a supporting carriage (14, 15) in a position relative to the associated grinding wheel head (6), and which operates automatically, carrying~~ carries out the shaping tool (12, 13) the mentioned displacement (U, C) and shaping of the grinding wheel (7, 7') in function of the mentioned during continuous detection of burrs by the measuring optical system (16—24), without stopping the rotor (2) grinding process with the grinding wheel (7, 7').

Claim 2 (Currently Amended)

Grinding machine for rotor blades according to claim 1, wherein ~~characterized in that~~ the two grinding wheels ~~(7, 7')~~ are situated ~~one~~ at each side of the head and the ~~mentioned~~ shaping tools (12, 13) of individual shaping is supported on the a carriage ~~(14, 15) incorporated to the head (6) and are projected above the head and it connected by to a screws (14', 15') belonging to the carriage (14, 15), for carrying out a the~~ vertical approaching movements to the grinding wheel ~~(7, 7')~~ and a forward movement during the shaping.

Claim 3 (Currently Amended)

Grinding machine for rotor blades according to claim 1, where the ~~mentioned~~ optical sensor ~~(19)~~ is supported on a carriage ~~(18)~~, which moves ~~can be moved~~ in a direction "Y" to carry out a horizontal radial forward movement towards the blades period ~~(2a)~~ of the rotor ~~in operation~~, and ~~it~~ has two opposed arms, including light issuer and receiver ~~(19a, 19b)~~, which are situated covering the rotor blades ~~period~~ ~~(2a)~~.